

as they do the malign influence in phylogenetics of "traditions masquerading as facts" (p. 295). What could anyone add to this, except that it is nowhere truer than of of human phylogenetics?

This then, is, an idiosyncratic book—but in the best sense of the adjective. Ghiselin has taken a number of core evolutionary concepts such as species, classification, and homology, has held them up to the light, and

has examined them from more angles than most of us have dreamed of: certainly more than can be done justice to—or argued about—in a short review. You'll have to read this one for yourself.

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AMERICAN BEGINNINGS. THE PREHISTORY AND PALAEOECOLOGY OF BERINGIA. Edited by Frederick Hadleigh West. Chicago: The University of Chicago Press. 1996. xxi + 576 pp. \$75.00 (cloth).

Although it may seem unusual to review in this journal a book dealing primarily with cultural rather than biological evidence for the peopling of the Americas, I believe it needs to be done. Regrettably, a proliferation of synchronic biological studies on this topic seems uninformed by a significant body of work, direct and diachronic, on Arctic colonization from Siberia and Alaska. Although available to the scholar willing to track it down, admittedly this trove has been published in many somewhat obscure English and Russian journals. However, the retrieval problem has been greatly reduced by Frederick H. West's marshalling of a large collection of new or updated contributions by more than 60 of the leaders in Beringian or closely related research.

This collection has one major lesson for synchronic genetic studies: There is very little archeological evidence for human presence in far northeastern Siberia, that is, eastern Yakutia, Chukotka, and Kamchatka, much before 15,000 years ago, and so far in Alaska, none predates 12,000 years (Hofecker, pp. 150–151). Any indirect and synchronic genetic claim made for human presence in the Americas before 12,000 years ago must shoulder the burden of demonstrating that all the Beringian specialists contributing to this volume are wrong. The grand master of Beringian studies, David M. Hop-

kins, says herein (xix): "To me, it now seems crystal clear than human prehistory in Beringia began not 20,000 [as he formerly believed] but closer to 12,000 years ago . . ."

Moreover, no reasonable case has been made for the initial late Pleistocene colonization of the Americas from any route other than Beringia—dry or flooded. While Proto-Sundadont colonists from Southeast Asia undoubtedly reached Sahulland by some form of watercraft at least 50,000 years ago, the inter-island passages between the mainland and New Guinea are trivial compared to any trans-oceanic route from the Old World to the New. Beringia was the only way to reach the Americas, be it on foot or in watercraft along the southern coast of the late Pleistocene land bridge. Not only is the geography compelling in this argument, so are natural history and paleoenvironmental considerations, along with the prehistoric manufacturing techniques and styles of most of the tool assemblages excavated in far/northeastern Siberia and Alaska. And if these two lines of evidence are not enough to determine origins and dates, there are many biological indicators of relatively recent origins including the obvious omission, trumpeted long ago by Hrdlička, of human skeletal evidence other than strictly anatomically modern, which might be expected had humans entered the New World more than 30,000 years ago as a number of synchronic biological studies claim.

*American Beginnings* contains three main sections: 1) The paleoenvironment, reconstructed in both geological and biotic chapters containing a dozen separate contribu-

tions; 2) the archeological evidence, the eight/chapter core of the book; and 3) a synthetic overview, containing powerful archeological conclusions drawn by West and brilliant interpretations of New World languages by Joseph H. Greenberg. The archeological evidence is reviewed regionally, in a standardized fashion that permits for the first time some remarkably fine-grained intra- and inter-regional comparisons. The eight archeological regions are dealt with in some 50 papers representing intra-regional districts, sets of closely related sites, or specific sites with special significance to the Beringian human colonization event. These are megaregions: Aldansk; Priokhotye, Kolyma River Basin, and Kamchatka; southern Primorye; central Alaska (Tanana River Valley); north central Alaska Range (Nenana and Teklanika valleys); south central Alaska Range (Tangle Lakes); Alaskan north Pacific littoral; southwestern Alaska (Kuskokwim drainage); and northern Alaska (Seward Peninsula and Brooks Range).

Despite the enormity of Beringia, *American Beginnings* misses nothing, including human skeletal information of which so far there has only been recovered a few ancient Siberian teeth which remain in Magadan unstudied. This massive survey of existing and new archaeological findings, together with the huge random sample provided by the Alaskan pipeline that ran hundreds of miles from the far northern Alaskan Arctic Ocean coast through the entire interior of Alaska to the north Pacific coast, shows that the probability of having missed a "pre-Clovis" occupation in Alaska comes closer and closer to zero with the passing of each new summer field season. Moreover, the earliest excavated sites are not little rinky-dink finds of one or two stone chips. For example, the 11,000+ B.P. Dry Creek site, located near Healy, Alaska, as of 1983 yielded 34,811 artifacts, with the earliest component containing more than 1,000 artifacts.

On the Siberian side, the oldest levels (ca. 14,000 B.P.) of a series of northern Kamchatkan sites called by the late N.N. Dikov, Ushki, have produced large dwellings (40–100 m<sup>2</sup>) with multiple hearths, many stone tools, a possible burial, jewelry, and various other artifact types. Attention, researchers. This volume provides definitive archaeological evidence for the colonization of Beringia, from which the remainder of the New World was subsequently colonized.

In his concluding section, West provides a remarkably easy-to-understand essay on the peopling of Beringia. What stands out to me is the overwhelming correspondence between what West sees as the prehistory of Beringia, and that which Greenberg, Zegura, and I offered jointly several years ago: namely, we felt there was reasonable linguistic, dental, archeological, and genetic evidence to propose a rapid, late, multiple-migration scenario, which we looked upon as having three waves—Paleo-Indian (Clovis), Na-Dene (Greater Northwest Coast), and Aleut-Eskimo. Although West changes labels for these pulses of Beringian biocultural prehistory, they seem even more probable with the publication of *American Beginnings*.

As a final remark, I suggest that any biological study on the peopling of the Americas failing to take *American Beginnings* into account does so at substantial risk. Just as dendrochronologists showed the carbon 14 clock to run irregularly, I believe that Beringian archeologists and paleoenvironmentalists offer much better evidence for setting biological clocks in the Americas than any hypotheses about mutation rates, population size, numbers of women, or other such impossible-to-verify assumptions.

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